

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings of claims in the application.

Listing of Claims:

Claim 1 (Currently Amended): A method of producing low-temperature coke, in which granular coal is heated to a temperature of 700 to 1050°C in a fluidized-bed reactor by an oxygen-containing gas, comprising:

introducing from below a first gas or gas mixture through at least one gas supply tube with an upper orifice into a mixing chamber of the fluidized-bed reactor so as to entrain solids from a stationary annular fluidized bed into the mixing chamber when passing through the upper orifice, the at least one gas supply tube being at least partly surrounded by the stationary annular fluidized bed extending beyond the upper orifice, the solids being entrained from the stationary annular fluidized bed extending beyond the upper orifice upon the first gas or gas mixture passing through an upper orifice region;

fluidizing the stationary annular fluidized bed by supplying fluidizing gas; and adjusting gas velocities of the first gas or gas mixture and the fluidizing gas for the stationary annular fluidized bed such that the Particle-Froude-Number is a) in the at least one gas supply tube between 1 and 100, b) in the stationary annular fluidized bed between 0.02 and 2, and c) in the mixing chamber between 0.3 and 30.

Claim 2 (Previously Presented): The method as claimed in claim 1, wherein the Particle-Froude-Number in the at least one gas supply tube is between 1.15 and 20.

Claim 3 (Previously Presented): The method as claimed in claim 1 wherein the Particle-Froude-Number in the stationary annular fluidized bed is between 0.115 and 1.15.

Claim 4 (Previously Presented): The method as claimed in claim 1, wherein the Particle-Froude-Number in the mixing chamber is between 0.37 and 3.7.

Claim 5 (Previously Presented): The method as claimed in claim 1, wherein solids are discharged from the fluidized-bed reactor and separated in a separator, wherein part of the solids or an amount of a product stream are recirculated to the stationary annular fluidized bed.

Claim 6 (Previously Presented): The method as claimed in claim 5, wherein the amount of the product stream recirculated to the stationary annular fluidized bed is controlled by a difference in pressure above the mixing chamber.

Claim 7 (Previously Presented): The method as claimed in claim 1, wherein granular coal having a grain size of less than 10 mm is supplied to the fluidized-bed reactor as a starting material.

Claim 8 (Previously Presented): The method as claimed in claim 1, wherein granular coal is a highly volatile coal and the highly volatile coal is supplied to the fluidized-bed reactor as starting material.

Claim 9 (Previously Presented): The method as claimed in claim 1, wherein the fluidizing gas supplied to the fluidized-bed reactor is air.

Claim 10 (Previously Presented): The method as claimed in claim 1, wherein the pressure in the fluidized-bed reactor is between 0.8 and 10 bar.

Claim 11 (Previously Presented): The method as claimed in claim 1, wherein iron ore is additionally supplied to the fluidized-bed reactor.

Claim 12 (Previously Presented): The method as claimed in claim 11, wherein the iron ore is preheated before being supplied to the fluidized-bed reactor.

Claim 13 (Previously Presented): The method as claimed in claim 11, wherein the iron ore and low-temperature coke withdrawn from the fluidized-bed reactor has a weight ratio of iron to carbon of 1:1 to 2:1.

Claim 14 (Previously Presented): A plant for producing low-temperature coke by the method recited in claim 1, comprising a fluidized-bed reactor, wherein the fluidized-bed reactor includes:

at least one gas supply system tube with an upper orifice at least partially surrounded by an annular chamber in which a stationary annular fluidized bed is located, wherein the stationary annular fluidized bed extends beyond the upper orifice, so that a first gas or gas mixture flowing through the at least one gas supply tube entrains solids from the stationary annular fluidized bed into the mixing chamber when passing through the upper orifice; and

a mixing chamber located above the upper orifice of the at least one gas supply tube.

Claim 15 (Previously Presented): The plant as claimed in claim 14, wherein the has at least one gas supply tube in the lower region of the fluidized-bed reactor extends upwards substantially vertically into the mixing chamber of the fluidized-bed reactor.

Claim 16 (Previously Presented) The plant as claimed in claim 15, wherein the at least one gas supply tube is arranged approximately centrally with reference to the crosssectional area of the fluidized-bed reactor.

Claim 17 (Previously Presented): The plant as claimed in claim 14, wherein downstream of the fluidized-bed reactor there is provided a separator for separating solids, which has a solids return conduit leading to the annular fluidized bed of the fluidized-bed reactor.

Claim 18 (Previously Presented): The plant as claimed in claim 14, wherein in the annular chamber of the fluidized-bed reactor, a gas distributor is provided, which divides the annular

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chamber into an upper fluidized bed region and a lower gas distributor chamber, and wherein the gas distributor chamber is connected with a supply conduit for fluidizing gas.

Claim 19 (Previously Presented): The plant as claimed in claim 14, wherein upstream of the fluidized-bed reactor, a preheating stage is provided, which consists of a heat exchanger and a separator.

Claim 20 (Cancelled)